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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/892,365 | 06/26/2001 | Haim Weissman | 000298C1 | 2777 |

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Qualcomm Incorporated
Patents Department
5775 Morehouse Drive
San Diego, CA 92121-1714

EXAMINER

TORRES, MARCOS L

ART UNIT PAPER NUMBER

2687

DATE MAILED: 04/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/892,365

Applicant(s)

WEISSMAN ET AL.

Examiner

Marcos L Torres

Art Unit

2687

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to RCE

1. In view of the RCE inadvertently not considered, the advisory action mailed April 20, 2004 has been vacated and is replaced with the non-final office action below.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on April 8, 2004 has been entered.

Response to Arguments

3. Applicant's arguments filed April 8, 2004 have been fully considered but they are not persuasive.

Regarding applicant argument's that there is no motivation or suggestion to combine the references of Weissman and Shyy; both references are directed to wireless communication system having communication with mobile stations using multiple transceivers; also both references have transceivers in different floors of a building to improve the communication network. Since both references are directed to improve the efficiency of the communication network, it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine both references to have a reliable delivery of the

Art Unit: 2687

communication data to the rest of the communication system. The current rejection stands.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 2687

7. Claims 1-2 and 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weissman (U.S. Patent US006449477B1) in view of Shyy (U.S. Patent US006178334B1).

As to claim 1, Weissman discloses a method for wireless communication, comprising: positioning a first plurality of slave transceivers within a region; positioning a second plurality of slave transceivers within the region in positions spatially separated from the positions of the first plurality of slave transceivers; receiving at the first plurality and at the second plurality of slave transceivers a reverse radio frequency (RF) signal generated by a mobile transceiver within the region and generating respective first and second slave signals responsive thereto; conveying the first and second slave signals to a base station transceiver subsystem (BTS) external to the region; and processing the first and second slave signals conveyed to the BTS so as to recover information contained in the reverse RF signal generated within the region (see col. 6, line 53 – col.7, line 67). Weissman do not specifically disclose conveying slave signals separately to a base station. Shyy discloses conveying signals separately to a base station (see fig. 5). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to add the Shyy teachings to Weissman system for a reliable enhanced delivery of signals.

As to claim 2, Weissman discloses the method wherein the region is generally unable to receive signals transmitted over the air from the BTS (see col. 6, lines 30-32).

As to claim 4, Weissman discloses the method wherein receiving at the first plurality and at the second plurality of slave transceivers the reverse RF signal generated by the mobile transceiver and generating respective first and second slave signals comprises down-converting the reverse RF signal so as to generate respective first and second intermediate frequency (IF) signals, and wherein conveying the first and second slave signals separately to the BTS comprises up converting the respective IF signals in a master unit to recover the first and second slave signals (see col. 7, lines 44-55).

As to claim 5, Weissman discloses the method comprising: conveying a forward RF signal from the BTS to a master unit; down-converting the forward RF signal to a forward IF signal; splitting the forward IF signal into a first and a second IF signal; delaying the second IF signal; conveying the first and delayed second IF signals to the first and second plurality of slave transceivers respectively; processing the first and delayed second IF signals to recover the forward RF signal and a delayed forward RF signal respectively; and transmitting the forward RF signal and the delayed forward RF signal to the mobile transceiver (see col. 7, lines 44-67).

8. Claims 3 and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weissman in view of Shyy as applied to claims 1-2 and 4-5 above, and further in view of Bassirat (U.S. Patent US006088003A).

As to claim 3, Weissman discloses everything claimed as explained above except for the method wherein conveying the first and second slave signals separately to the BTS comprises orthogonal polarizing the signals. Shyy

Art Unit: 2687

discloses conveying signals separately (see fig. 5). Bassirat discloses the method wherein conveying the first and second slave signals to the BTS comprises orthogonal polarizing the signals (see col. 3, lines 41-62). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to add the Bassirat teachings to the modified Weissman and Shyy method for enhanced coverage.

Regarding claims 6-10, they are the corresponding apparatus claims of method claims 1-5. Therefore, claims 6-10 are rejected for the same reason shown above.

Conclusion

Any response to this Office Action should be mailed to:

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Hand delivered responses should be brought to:

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcos L Torres whose telephone number is

Art Unit: 2687

703-305-1478. The examiner can normally be reached on 8:00am-6:00 PM alt.

Wednesday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G Kincaid can be reached on 703-308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marcos L Torres
Examiner
Art Unit 2687

mlt

 4/15/05
ELISEO RAMOS-FELICIANO
PATENT EXAMINER